

## **REMARKS**

Claims 14, 15, 17, 20-22, 39, 40, 42, 45-47 and 58 are pending. In the instant amendments, claims 14, 17, 20, 22, 39, 42, 45, 47 and 58 are amended. Claim 46 is canceled. Upon entry of the claim amendments, claims 14, 15, 17, 20-22, 39, 40, 42, 45, 47 and 58 will be pending and under consideration.

### **I. AMENDMENTS TO THE CLAIMS**

The communicating step of claims 14, 17, 20, 22, 39, 42, 45, 47 and 58 has been amended to recite “outputting said one or more genotypic data structures to a user or a display; or outputting said one or more genotypic data structures in user readable form to a computer memory or other computer on a network.” Support for the clause “outputting said one or more genotypic data structures in user readable form to a computer memory or other computer on a network” recited in amended claims 14, 17, 20, 22, 39, 42, 45, 47 and 58 is provided, for example, by figure 1 and accompanying discussion in lines 26-33, on page 10 of the specification discussing the exemplary hard disk drive and random-access memory (RAM) components of the non-volatile storage unit and system memory as well as the network interface card 36 which, as set forth on page 11, lines 3-4, of the specification, connects computer 20 to a communication network and therefore facilitates the outputting of data to other computer on a network.

The determining and identifying steps of claims 14, 17, 20, and 22 have also been amended to require that these steps are performed on a computer. Support for these amendments is found in figure 1 which, according to page 10, lines 23-24, is a system (machine) for associating a phenotype with one or more candidate chromosomal regions in a genome of an organism and thus can carrying out the determining and identifying steps of claim 14, 17, 20, and 22. Support for these amendment to claims 14, 17, 20, and 22 is also found in claims 52-61 as originally filed, which are directed to computer systems that perform the determining and identifying steps using a computer system.

Claims 39, 42, 45, and 47 have been amended to require a “physical computer readable storage medium.” Support for this amendment to claims 39, 42, 45, and 47 is provided, for example, by figure 1 and accompanying discussion in lines 26-33, on page 10 of the specification discussing the exemplary hard disk drive and random-access memory (RAM) components of the non-volatile storage unit and system memory that can store

programs and data used to associate a phenotype with one or more candidate chromosomal regions in a genome of an organism.

Claim 46 has been canceled without prejudice to Applicants' rights to pursue canceled subject matter in one or more continuation applications.

The amendments to the claims are supported by the specification and claims as originally filed. No new matter is introduced with these claim amendments. Entry of the claim amendments is respectfully requested.

No claim amendment fee is believed to be due with these amendments.

## **II. CLAIM REJECTION UNDER 35 U.S.C. § 101**

Claims 14, 15, 17, 20-22, 39, 40, 42, 45-47 and 58 stand rejected under 35 U.S.C. § 101 as being directed to nonstatutory subject matter. Specifically, these claims stand rejected under 35 U.S.C. § 101 because claims 14, 17, 20, 22, 39, 42, 45, 47 and 58 each recite "communicating" a result to "a readily accessible computer memory or other computer on a network" which the Patent Office deems to read on the generation of a nonstatutory transient signal. Office Action, dated August 6, 2008, page 4 (hereinafter "the First 35 U.S.C. § 101 Rejection"). Claims 39, 40, 42, and 45-47 also stand rejected under 35 U.S.C. § 101 for the additional reason that they are drawn to a "computer program product comprising a computer readable storage medium" which the Patent Office alleges reads on the transient embodiment of a signal or carrier wave that is not considered concrete. Office Action, dated August 6, 2008, page 6 (hereinafter "the Second 35 U.S.C. § 101 Rejection").

Claim 46 is canceled, thus the rejection of claim 46 is moot. With respect to the 35 U.S.C. § 101 rejections, the Patent Office states "[r]egarding inventions involving the application of a judicial exception, said application must be a practical application of the judicial exception that includes either a step of a physical transformation, or produces a useful, concrete, and tangible result." Office Action, dated August 6, 2008, page 3. Applicants respectfully point out that, in view of *In re Bilski*, No. 2007-1130 (Federal Circuit, October 30, 2008), the Patent Office's test for patent-eligibility under 35 U.S.C. § 101 is incorrect. Reasoning that "[a] claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing," *In re Bilski* held that the proper test for determining patent-eligibility under 35 U.S.C. § 101 is the machine-or-transformation test. *In re Bilski*, No. 2007-1130 (Federal Circuit, October 30, 2008). Accordingly, Applicants have amended claims 14, 17, 20, and 22 to require that the determining and identifying steps be performed on a computer.

As such, claims 14, 17, 20, and 22, and their dependent claims, are intimately tied to another category of invention: a machine, and thus are directed to patent-eligible subject matter under the *In re Bilski* machine-or-transformation 35 U.S.C. § 101 test.

Although Applicants do not acquiesce to the First 35 U.S.C. § 101 Rejection for the reasons stated in Applicants' Amendment and Response dated April 7, 2008 and because the test used by the Patent Office to determine patent-eligible subject matter under 35 U.S.C. § 101 does not comport with the machine-or-transformation test set forth in *In re Bilski*, nonetheless to expedite allowance of the claims, Applicants have amended claims 14, 17, 20, 22, 39, 42, 45, 47 and 58 to recite "outputting said one or more genotypic data structures to a user or a display; or outputting said one or more genotypic data structures in user readable form to a computer memory or other computer on a network." Thus, these claims as amended read on (i) outputting one or more genotypic data structures to a user of a display or (ii) outputting said one or more genotypic data structures in user readable form to a computer memory or other computer on a network. In an October 28, 2008, Examiner Interview with Supervisory Patent Examiner Marjorie Moran for an application facing similar 35 U.S.C. § 101 rejections, Examiner Moran stated that an outputting step comparable to the outputting step of Applicants' claims 14, 17, 20, 22, 39, 42, 45, 47, and 58, in which data was outputted in user readable form to a computer readable storage medium or a local or remote computer system, would satisfy the requirements of 35 U.S.C. § 101. Applicants further note that the instant application does not disclose, teach or suggest embodiments that output data as signals or the generation of transitory signals. For the forgoing reasons, Applicants respectfully submit that claims 14, 17, 20, 22, 39, 42, 45, 47 and 58 do not read on embodiments in which data is outputted as signals or in other transitory forms. According to Applicants' claims 14, 17, 20, 22, 39, 42, 45, 47, and 58 as amended, when data is outputted to a computer memory or other computer on a network, the data must be in user readable form. Signals and other transitory data forms are not user readable and hence the rejected claims do not read on such embodiments.

With respect to the Second 35 U.S.C. § 101 Rejection, the Patent Office asserts that amending claims 39, 40, 42, 45, and 47 to recite a *physical* computer readable medium is sufficient for the claims reciting the phrase to encompass statutory subject matter. Office Action, dated August 6, 2008, page 5. Although Applicants do not acquiesce to the rejection, nonetheless to expedite allowance of the claims, Applicants have amended claims 39, 42, 45, and 47 to recite "physical computer readable medium."

For the reasons set forth above and in view of the amendments to the claims, Applicants respectfully request that the rejection of claims 14, 15, 17, 20-22, 39, 40, 42, 45-47 and 58 under 35 U.S.C. § 101 be withdrawn.

**III. CLAIM REJECTION UNDER 35 U.S.C. § 103(a)**

Claim 46 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Satagopan *et al.*, *Genetics*, volume 144, pages 805-816, 1996. Although Applicants do not acquiesce to the rejection for reasons stated in Applicants' Amendment and Response dated April 7, 2008, nonetheless the rejection is moot since claim 46 has been canceled. Applicants respectfully request that the rejection of claim 46 under 35 U.S.C. § 103(a) be withdrawn.

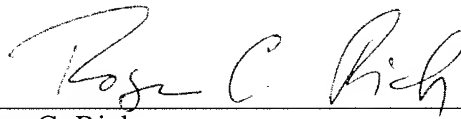
**CONCLUSION**

Applicants respectfully request that the present amendments be entered and above remarks be made of record in the instant application. In view of the above remarks, Applicants respectfully submit that the subject application is in good and proper order for allowance.

No fees are believed to be due. However, if any fees are due in connection with this submission, please charge the required fees to Jones Day Deposit Account No. 50-3013 (order no. 800935-999015).

Respectfully submitted,

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